

# Chapter 11

## Antecedents and Consequences of Technology Orientation (TECHOR) for Small Firms

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### ABSTRACT

*This chapter explores the firm-level technology orientation construct and highlights the importance of a small firm's dynamic capabilities in knowledge learning and management. Technology orientation (TECHOR) is comprised of three sets of technology-oriented activities: the allocation of technology resources, the development of technology competence, and the ability to sense and respond to technology opportunities that influence technology adoption and utilization. As firms engage in more of these activities, they will have higher levels of technology orientation. Antecedents to TECHOR include external forces (technology policy and industry characteristics) and internal dynamics (role of management, interdepartmental connections, and organizational factors). Consequences include customer outcomes (technology learning, perceived quality, and loyalty), employee outcomes (technology learning, job satisfaction, and performance) and organizational outcomes (firm performance and competitive advantage). Small firms that can deliver the appropriate match between the required technology-oriented activities, technology adoption, and utilization are the ones that are likely to survive and thrive.*

### INTRODUCTION

Today's business landscape is one of increased competitiveness, global perspective, and maturing markets. To maintain a competitive parity, most firms, large and small, are obliged to use

technologies to improve operational effectiveness, create value and enhance consumer perceptions of service quality. Indeed, the technologies available for planning the marketing mix and managing customer relationships are increasingly more sophisticated. Markets are dynamic, and so are

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the technologies used in all aspects of marketing activities. Managers are often held accountable for identifying new markets, reducing marketing costs, and increasing returns on investment. Thus, they look for technologies that might lead to customer captivity, a situation where customers habitually rely on a firm and are reluctant to switch service providers, leading to a competitive advantage for the firm (Greenwald & Kahn, 2005).

Traditional marketing techniques through sales personnel and promotional media alone are no longer adequate. Increasingly, these conventional approaches are being augmented by technology-based marketing, and thus, developing a technology orientation inevitably facilitates marketing activities (Colby & Parasuraman, 2003; Parasuraman & Colby, 2001). More and more, organizations witness the benefits of integrating technology into their operations such as increased efficiency, extending customer interface hours (Dabholkar, 1996), managing capacity (Radas & Shugan, 1998), enabling customization (Meuter et al., 2000), technological innovation (Teece, 1986), and ultimately value co-creation (Sheth & Usley 2007).

In spite of the well documented benefits, there are many examples of firms failing to utilize new technologies available to them, and firms integrating tremendously expensive technologies that fail to generate the expected results. These scenarios occur because of inappropriate adoption and utilization of technology that can lead to negative organizational outcomes, or unforeseen customer and employee reactions. Academic researchers and practitioners alike have found that unless the use of technology is strategically woven into an organization's fabric, a variety of unintended negative consequences can result. Technology failures can range from careless strategic plan to inferior designs to poor implementation, and these failures can be disruptive (Adner, 2002).

Ironically, despite its importance, managers (and particularly those of small firms) receive little guidance from the academic literature regarding the appropriate amount of technology to

integrate into their operations. External industry forces might influence the appropriate level of technology adoption and utilization for an entire industry. Likewise, specific organizational factors might lead to different firms within an industry having different ideal levels of technology integration. With a better understanding of these factors, managers/owners will be in a better position to determine appropriate technology needs.

Although the aforementioned issue is an important strategic consideration, small firm-level technology orientation (TECHOR) has not been fully examined in academic research. Most orientation studies in the last few decades have focused on market orientation and customer orientation in large firms (e.g., Jaworski & Kohli, 1993; Slater & Narver, 1995; 2000). The handful of empirical studies that provide a preliminary outlook on technology orientation focus narrowly on subjects such as product innovation (Salavou, 2003), breakthrough technologies (Zhou, Yim & Tse, 2005), sales technology (Hunter & Perreault, 2006), and managers' attitudes toward information technology (Chahal & Kohli, 2006), with no focus on construct development.

We address this gap by presenting a conceptual framework to describe and operationalize TECHOR at the firm level. The development of TECHOR as a multi-dimensional construct is based on a multi-discipline literature review and extensive field work in a health care organization. By gaining familiarity with the TECHOR construct, small firm management will have the knowledge to better manage technology initiatives and more effectively assess levels of technological assimilation and integration within marketing mix activities, which will ultimately lead to sustainable competitive advantages.

## **CONCEPTUAL BACKGROUND**

This study draws from the general stream of literature that seeks to understand how organizational goals influence firm actions and decisions

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